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Title
METHOD AND APPARATUS FOR PERFORMING
CHEMICAL REACTIONS IN A PLURALITY OF SAMPLES

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ABSTRACT

A method and apparatus for simultaneously performing chemical reactions and determining molecular transport dynamics on a plurality of samples such as thin film samples. The apparatus of the present invention is capable of containing multiple samples in individual sample holding positions in a sample holder within a housing and maintaining those holding positions in chemical isolation from each other. Under control of a computerized controller, the apparatus positions the sample holder so that each sample holding position may be positioned adjacent to one or more ports connected to a distribution manifold. The apparatus exposes each sample to one or more fluids in liquid or gas phase, thereby carrying out a chemical reaction and/or determining molecular transport dynamics under controlled temperature and pressure conditions. The sample holding positions may be positioned in an analytical measurement station within the housing so that the resulting chemical compound or mixture may be characterized.